BEFORE THE HEARING COMMISSIONERS
APPOINTED BY CANTERBURY REGIONAL COUNCIL

UNDER THE	Resource Management Act 1991
AND	
IN THE MATTER	of application CRC190445 by the Christchurch City Council for a comprehensive resource consent to discharge stormwater from within the Christchurch City area and Banks Peninsula settlements on or into land, water and into coastal environments

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SUMMARY OF SECTION 42A OFFICER REPORT OF Dr Lesley Bolton-Ritchie

FOR CANTERBURY REGIONAL COUNCIL

14 November 2018

INTRODUCTION

1 My name is Lesley Bolton-Ritchie. In this document I address the areas of agreement and disagreement between my expert evidence and that expressed by the Applicant.

KEY AREAS OF AGREEMENT

2 Many of the issues I raised have been addressed by the applicant, with changes being made in the EMP and consent conditions, as well as well-reasoned explanations provided when changes have not been made. The applicant has addressed, to my satisfaction, the issues listed below.

- wording in the EMP;
- wording in consent condition schedules;
- sampling methodologies;
- location of sampling sites;
- Addition of water quality and sediment quality sampling sites;
- coastal water quality parameters to be tested for;
- the time frame for any work undertaken to fulfil consent condition 51 and how CCC will respond when many sites do not meet attribute target levels;
- having robust processes and requirements for stormwater discharges from high-risk sites;

3 This includes agreement for the following points raised in paragraph 10 of Dr Margetts' summary evidence:

- the proposed CCC reporting approach for metals in surface water at coastal sites rather than the approach I suggested;
- not aligning instream sediment and aquatic ecology monitoring at eight sites – robust rationale has been provided on this;
- not having a five-yearly review of the Semi-Volatile Organic Compounds to be analysed in the instream sediment samples – robust rationale has been provided on this;
- not including an additional monitoring site in the Ihutai/Avon-Heathcote Estuary - robust rationale has been provided on this;

KEY AREAS OF DISAGREEMENT

Wording in consent conditions

4. In paragraph 66 of my evidence in chief I recommended the following word changes:

6. b. A definition of the extent of the stormwater infrastructure, including any portions of waterways including drains, that forms the stormwater network within the catchment for the purposes of this consent;

6.d.v. Prioritising stormwater treatment in catchments that discharge: into areas designated as having significant or high natural value (including Maori Cultural Values; Protected Areas Wetland, Estuaries, and Coastal lagoons; Marine Mammals and Birds;Ecosystems, Flora and Fauna habitats; scenic sites and historic places; coastal landforms and associated processes), in proximity to areas of significant or high ecological or cultural value, such as habitat for threatened species or mahinga kai/kai moana species and/or in areas which receive or have existing high contaminant loads;

5. I am still not certain whether the drains that flow into the estuary, particularly City Outfall Drain and Charlesworth Drain, are included within the stormwater network.

6. In the revised consent conditions one, but not all, of the changes I recommended has been accepted. The revised wording of 6.d.v. is:

> Prioritising stormwater treatment in catchments that discharge in proximity to areas of high ecological or cultural value, such as habitat for threatened species or Areas of Significant Natural Value under the Regional Coastal Environment Plan (Canterbury Regional Council, 2012) and areas with high contaminant loads;

Mahinga kai and kai moana species are likely be covered in cultural values and therefore I can accept that no change to wording has been made. However, my recommendation re 'in areas which receive or have existing high contaminant loads' has not been accepted. When I made this recommendation, I had in mind area of the Lyttelton Port. I discuss the situation of the Lyttelton Port in paragraph 43 of my evidence.

Paragraph 43 of my evidence:

> Within the operational area of the port there are multiple sources of dissolved metals to harbour water (e.g. leaching from anti-fouling paint on ship hulls, leaching from wharf piles, re-suspension of contaminated sediment (in proximity to the dry dock)). Nonetheless discharges should not have 'the capability of causing significant adverse effects on aquatic life or the capability of causing a significant loss of indigenous biological diversity'.

Dry and wet weather sampling

7. In my evidence I recommended:

- The monthly sampling be flexible enough to allow for sampling of at least three wet weather events per year.

Dr Margetts has discussed my dry and wet weather sampling recommendation in the paragraphs for point 91 of her evidence as well as in her summary evidence. She states that on average monthly monitoring achieves three days of rainfall I accept that logistical and resourcing issues make it difficult for the monthly sampling to be flexible, but I would still like certainty that there will be sampling of at least three wet weather events per year. In paragraph 49 of my evidence I do state 'I am of the opinion that this wet weather sampling does not have to meet the requirements of the five yearly wet weather sampling as described in 5.2.2 of the EMP. This collection of wet weather samples could be achieved by doing additional sampling over and above the routine monthly sampling programme or having a more flexible monthly sampling regime'.

Responses when attribute target levels are not met

8. Proposed consent condition 51 outlines the required responses to monitoring when attribute target levels are not being met. The specific requirements I have described in my evidence have not been listed in this consent condition. These are:

    - If the water quality monitoring results indicate that dissolved metal concentrations at the Akaroa site are above guideline values, the flesh of the shellfish species that occur in proximity to the sampling site should be assessed for cadmium and lead concentrations.

    - If the (MfE/MoH, 2003) guidelines are not met, warning signs need to be erected about collecting and eating shellfish from the area, and an investigation is undertaken.
    - Sediment quality at coastal sites is measured if the water quality monitoring results indicate that dissolved metal concentrations are above guideline values.
    - corrective actions or remediation for sites where the concentration of one or more sediment contaminants is above SQG-high and a consent condition requiring a response when one or more sediment

contaminants is above SQGV. Alternately an SQGV exceedance could trigger a Weight of Evidence (http://www.waterquality.gov.au/anz-guidelines/resources/key-concepts/weight-of-evidence) approach. This Weight of Evidence approach integrates chemistry, toxicity, bioaccumulation and ecology to produce an overall weight-of-evidence score.

9. However, proposed consent condition 51 c now states 'engage with Environment Canterbury about and perform an investigation to identify whether this is due to the effects of stormwater discharges with site investigations prioritised for areas with high levels of contaminants, or sensitive or high value receiving environments'. That is, these responses can be discussed and if relevant, incorporated into site investigations. I accept that this is a suitable way to address the specific requirements I raised in my evidence.

Having each SMP audited and approved by a Technical Advisory Panel

10. The Applicant has proposed as an addition under Condition 7 that there will be a peer review of the draft SMP from independent experts. They have not agreed to having a Technical Advisory Panel. The rationale for a Technical Advisory Panel is described in paragraph 70 of my evidence. The CSNDC application does not include the detailed information that would typically be required for a discharge consent application. Rather it is at the catchment SMP level that the details are provided and specific receiving environment effects are addressed. The finalised draft of each new SMP should be scrutinised in detail, and a Technical Advisory Panel would have this role. This would complete the SMP process by reviewing the final draft document to ensure that best practice has been applied in all technical areas covered.

C-CLM or equivalent modelling for Lyttelton Township and the City Outfall Drain catchment, Charlesworth Drain catchment and the streams flowing from the hills directly into Ihutai

11. This was discussed at the meeting between CCC and CRC staff on Monday 29 October 2018. The CCC have now added the following to draft consent condition 6.e. 'including the identification of sub-catchments with

high levels of contaminants.' This addition does not provide certainty there will be C-CLM or equivalent modelling for the areas I have listed. In my opinion it is vital to have such modelling completed for these areas so that Council and the public understand if and what the issue is, and what improvement could be made to stormwater quality if there is an issue. That is, the modelling must include projected contaminant load reductions that could be achieved and the timeframes for this. Including a requirement for this work in these listed catchments should result in stormwater being better managed in these areas in the future than it has been in the past. In particular, and as mentioned in the final paragraph of my evidence, I am concerned about cumulative effects particularly for the Estuary of the Heathcote and Avon Rivers/Ihutai. Stormwater is just one of the many stressors on the estuary, but one where management actions can be taken. This consent and the processes which will be put in place for stormwater discharges should ensure the concentrations of stormwater contaminants within estuary water and sediments don't get worse and they should improve in the future.

RECOMMENDED ADDITIONAL CHANGES

12. CCC are now going to use the ANZECC (2000) values rather than those in the RCEP. I am pleased with this acceptance of my recommendation. The one point I make is that in Table 3 of the EMP it should have '95th percentile, not medians' in brackets after the guideline level for dissolved copper, dissolved lead and dissolved zinc. This wording is already in place for the waterway guideline levels in Table 3 of the EMP.

Dr Lesley Bolton-Ritchie

14 November 2018